



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/585,368	07/05/2006	Mathias Wendt	DE 040014	2478
24737 7590 10/31/2008 PHILIPS INTELLECTUAL PROPERTY & STANDARDS P.O. BOX 3001 BRIARCLIFF MANOR, NY 10510				
EXAMINER				
AMRANY, ADI				
ART UNIT		PAPER NUMBER		
2836				
MAIL DATE		DELIVERY MODE		
10/31/2008		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/585,368

**Applicant(s)**

WENDT ET AL.

**Examiner**

ADI AMRANY

**Art Unit**

2836

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 October 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments filed October 17, 2008 have been fully considered but they are not persuasive. It is inherent that the voltage supplied to the Jepsen converters is always above "a threshold voltage." The newly added claim limitation of "meets or exceeds a threshold voltage" does not tie the threshold to any definitive level or occurrence. For the purpose of the art rejection of the claims, the threshold voltage is interpreted as zero (0) volts. In such a scenario, the converter will only operate when it has power to convert ( $P = V * I$ ).

It is also believed that a rejection based on Jepsen is proper under §102(e) since the §371 filing date of the present application is December 21, 2004, about a year before the earliest publication date (12/15/05) of Jepsen but after the filing date (6/20/03).

### ***Claim Objections***

2. Claims 1 and 11 are objected to because the limitation stating that the DC/DC converters are "connected to another one of said power generating units" should be rewritten as "connected to a respective one of said power generating units" to more clearly indicate the one-to-one connection. Claim 10 contains proper phrasing. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

4. Claims 1-2, 8-11 and 18-19 are rejected under 35 U.S.C. 102(e) as being anticipated by Jepsen (US 2005/0275386).

With respect to claims 1 and 10, Jepsen discloses a decentralized power generation system (fig 1; par 43-44) and the associated method, comprising: a plurality of decentralized power generating units (FC, PV); a plurality of DC/DC converters (A) connected to another one of said power generating units and, when a voltage supplied from a respective power generating unit meets or exceeds a threshold voltage, the associated DC converter is configured to convert a current provided by said power generating units; a DC bus (3); and at least one power receiving component (B) connected to the DC bus, wherein the power receiving component is physically separated from said DC/DC converters.

As discussed above, when a source is not supplying any power (during nighttime), the DC/DC converter will not have any power to convert. The “threshold

voltage" is interpreted as zero (0) volts. With zero volts, the power input to the converter is also zero ( $P = V * I$ ). Once a source begins to actually supply power (par 43, lines 1-5), the converter will then convert a current supplied by that source.

Further, all of the components are physically separated from each other, as is illustrated by borders and spacing between components (fig 1). Jepsen also clearly discloses that there is a DC bus between the converters (A) and the inverter (B).

With respect to claim 11, Jepsen discloses the limitations of claim 1 and further discloses controlling the output voltage of the converters not to exceed a predetermined value (par 18-19).

With respect to claim 2, Jepsen discloses the converters operate autonomously (par 4, 44).

With respect to claims 8 and 18, Jepsen discloses said power receiving component is an inverter to feed AC current into an AC power supply system (13).

With respect to claims 9 and 19, Jepsen discloses each of said power generating units comprises at least one photovoltaic module (PV). Jepsen discloses (par 43, lines 19-21) that the power sources are photovoltaic cells and that they may be other types of sources in other embodiments.

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 3 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jepsen.

With respect to claims 3 and 13, it would be obvious to one skilled in the art that a "mechanical connection" exists between the power sources and the converters, which are already physically connected by an electric transmission line.

7. Claims 4-5 and 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jepsen in view of Ostojic (US 6,771,052).

With respect to claims 4 and 14, Jepsen discloses a microcontroller on the power receiving component, but does not expressly disclose the microcontroller is adapted to survey a voltage on said DC bus and to reduce the power retrieved from said DC bus when the voltage on said DC bus is detected to be decreasing. Ostojic discloses a multiple-output DC/DC power supply with a microcontroller programmable to monitor the voltage of a bus and to react accordingly in the presence of a fault, which may be a reduction of power in the bus due to failure of one of the converters (col. 7, line 63 to col. 8, line 18).

Jepsen and Ostojic are analogous because they are from the same field of endeavor, namely microcontroller controlled converters. At the time of the invention by applicants, it would have been obvious to modify the Jepsen device with the Ostojic microcontroller in order to increase the protection level of the system.

With respect to claims 5 and 15, Ostojic discloses the microcontroller is able to ramp-up and ramp-down the DC/DC converters besides controlling the sequence for turning on (col. 6, lines 48-62).

With respect to claims 6 and 16, Jepsen discloses at least one plug connection (darkened circles at the top of each converter) for electrically connecting a respective converter in common to said DC bus and, via said control line (5), to said at least one power receiving component (B).

8. Claims 7 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jepsen in view of Ostojic and Najemy (US 5,809,256).

Najemy discloses a power switching converter with connector pins for power and data, wherein the pins for power are longer than the pins for data (col. 5, line 52 to col. 6, line 25). Jepsen, Ostojic and Najemy are analogous because they are from the same field of endeavor, namely controlled converter systems. At the time of the invention by applicants, it would have been obvious to modify the Jepsen pins as shown in Najemy such that, during plug insertion/removal, selected pins are connected/disconnected first (Najemy; col. 2, lines 33-46).

9. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jepsen in view of Courier de Mere (US 5,010,277).

Jepsen does not expressly disclose that none of the DC/DC converters includes an electrolyte capacitor. Courier de Mere discloses converters without the need for electrolyte capacitors (abstract). Jepsen and Courier de Mere are analogous because they are from the same field of endeavor, namely DC/DC converters. At the time of the invention by applicants, it would have been obvious to modify the Jepsen converters as disclosed in Courier de Mere because it uses less components, adding to the simplicity of the circuitry.

***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Although some of the cited references (see PTO-892 form) show a plurality of AC/DC converters alongside DC/DC converters, one skilled in the art would readily understand how to construct the systems with only DC sources and DC/DC converters.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ADI AMRANY whose telephone number is (571)272-0415. The examiner can normally be reached on Mon-Thurs, from 10am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Sherry can be reached on (571) 272-2800 x36. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



AA

/Stephen W Jackson/  
Primary Examiner, Art Unit 2836